Acquisition of ownership inside virtual worlds*

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1 Introduction

The field of virtual property is still one that not many people are aware of. Even if they have heard about it, their concept of it is often

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2 This article is intended to be an exploratory and introductory article to the fields of virtual law, virtual property and virtual worlds. It is the first of a number of forthcoming articles dealing with both law and property regarding and inside of virtual worlds.
unformed, imprecise and mostly out-dated. While virtual property includes well known intangibles like domain names and email addresses, it also refers to property that only exists inside virtual worlds. This type of virtual property is a common feature of modern multi-player internet based virtual worlds. The virtual property found in virtual worlds is usually created from computer code that is implemented to fulfill the same function in the virtual world as it would in the real world. For example, a virtual chair would be used to seat a virtual person.

For the purpose of this article, the term virtual property will be used to refer to the objects of virtual property as found inside a virtual world. These objects are the items that players encounter and use by means of interaction between themselves, their avatars and the virtual world. One category of the objects of virtual property would refer to things, or rather movable (in) tangible virtual items. Other categories include (amongst others) virtual immovable property or things like houses, castles and land. In certain virtual worlds there are even slaves that are

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3 This is possibly due to the changing understanding of the virtual property concept and the constant development of the virtual world phenomenon.
9 This example can be enhanced by visualizing a virtual folding chair that is placed next to a virtual wrestling ring. This virtual chair would then be used by one virtual wrestler, to hit his opponent over the head. Hence form follows function.
10 As mentioned above the term “virtual property” has many other meanings as well. Examples of other objects of virtual property include uniform resource locators (URL’s); domain names; email addresses; bank accounts; the player’s account in a virtual world (ie the player’s complete virtual world patrimony in that specific world); intellectual property interests held by both players and developers in the objects that they create, import and use in virtual worlds etc. See in general the discussion about various objects of virtual property Fairfield 2005 Boston U LR 1047 1049, 1052; Lastowka & Hunter 2004 Calif LR 1 29.
11 An avatar is the player’s corporeal representation inside the virtual world, otherwise also known as the player’s character. See Castronova (2001) 3.
12 These would include objects such as chairs, sneakers, clothing, cars and almost any other type of object that one would find as a virtual (in) tangible object to its real world counterpart. In order to appreciate the diversity of virtually tangible objects that are created, used, traded and sold in virtual
deemed to be the property of the player. Even more challenging from a real world property perspective, is the fact that a player’s avatar could also be defined as an object of a property right.

Although there are various levels in which one can perceive virtual property, the focus in this article will be on the intra-virtual world level. In other words, the cross-border transactions that occur between the real and virtual worlds will be ignored. This article will specifically not deal with the player’s virtual world account as an object of virtual property. Acquisition of ownership inside the boundaries of the virtual world will be illustrated by a number of virtual world examples. Because of these exclusions, a number of assumptions will be necessary. These assumptions are that a player can have possession of a thing in a virtual world and that the concept of ownership is also taken for granted inside the virtual world.
The aim of this paper is to take an introductory look at acquisition of ownership inside a virtual world. A brief summary of the methods of acquisition of property in South African property law will provide the background against which to discuss the new field of virtual property and give it some real world context. In most instances ownership will be derived from the terms of a contract, where a developer gives a user a right to use or own an object of virtual property.\(^\text{17}\) Sometimes this is just a right of use,\(^\text{18}\) but at other times, and specifically in virtual worlds that emulate the real-world,\(^\text{19}\) users are able to acquire ownership in these items.\(^\text{20}\) There are also a number of other methods of acquisition that closely resemble those found in the real world. Ownership in a virtual

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\(^{18}\) For example, World of Warcraft’s (WoW) EULA states that “(t)his software is licensed, not sold. By installing, copying or otherwise using the game (defined below), you agree to be bound by the terms of this agreement.” See Blizzard “World of Warcraft – End User License Agreement” 2009 World of Warcraft available at http://www.worldofwarcraft.com/legal/eula.html (accessed 2009-11-04).

\(^{19}\) As an example, one of the private islands in Second Life is called “Brigadoon.” This is a safe, virtual environment where people with Asperger’s syndrome and their care-givers can interact. See Silverstein “A world where anything is possible” 2005 abc NEWS available at http://abcnews.go.com/Technology/FutureTech/story?id=1019818 (accessed 2009-12-01); Fairfield 2005 Boston U LR 1047 1049 nn 51, 52.

\(^{20}\) For example in the virtual world of Second Life ownership of land is an essential part of the gameplay. For an illustration of how this works see the discussion about estates versus private regions in Second Life where Linden Labs (the developer of Second Life) describes an estate as follows: “An estate is a term for a group of one or more Private Regions that belong to one Resident. See Linden Lab “Private regions: about land” 2011 Second Life English Knowledge Base available at http://community.secondlife.com/i5/English-Knowledge-Base/Private-Regions/ta-p/700133 (accessed 2011-10-12).
item can be ceded, sold, inherited or lost in an insolvent estate.\textsuperscript{21} It can even be acquired in an original form.\textsuperscript{22}

The relevance of this field of property law becomes apparent when one realises that virtual property ownership has far-reaching consequences from both an economic and social viewpoint.\textsuperscript{23} Because of this importance of virtual property from an economic perspective,\textsuperscript{24} it follows that whoever has ownership\textsuperscript{25} of these virtual assets are able to exert control over and derive financial interest from them.\textsuperscript{26} Due to this fact, knowledge of how ownership in virtual property can be acquired and what the corresponding rights should be, quickly become relevant to the practice of the law of property.

2 Acquisition of Real World Property

Before investigating the ways in which virtual property is most often acquired, it would be good to take a brief look at the ways in which one is able to obtain ownership of things in South African private law. This


\textsuperscript{22} This is discussed in more detail below.

\textsuperscript{23} See in general Lastowka & Hunter 2004 California LR 1 74.


\textsuperscript{25} Vacca discusses two models of ownership used in virtual worlds, the first refers to the so-called traditional model of ownership where the developer of a virtual world automatically becomes or stays the owner of all property inside the virtual world. The second model he calls “user-retained ownership” which leaves ownership of user-created content in the hands of the player and not the developer. See: Vacca “Viewing virtual property ownership through the lens of innovation” 2008 Tenn LR 42 44.

\textsuperscript{26} This correlates with the phenomenon that most of the largest virtual worlds that are commercially run tend to follow the model of ownership where the developer retains all ownership inside the virtual world. See in general Vacca 2008 Tenn LR 42 44.
will provide a real world frame of reference when discussing acquisition of ownership inside a virtual world. In the real world, acquisition of ownership is usually divided into two broad categories, being either original or derivative. The main difference between the two relate to the question of whether the ownership is acquired independently or in the alternative, derived from and dependent on the ownership of a predecessor. Hence, original acquisition of ownership is usually said to occur when there was no predecessor, and derivative acquisition takes place when ownership is derived from a predecessor. Original acquisition is the result of a unilateral act and a new right is created in respect of the property being acquired. Derivative acquisition on the other hand, follows after a bilateral transaction requiring the cooperation of the predecessor in title.

Some of the more prominent examples of original acquisition of ownership (with similar counterparts in virtual worlds) are occupation; treasure trove; accession; specification; acquisition of fruits; expropriation; forfeiture to the state and appropriation of minerals.

Examples of derivative acquisition of ownership (with similar counterparts in the virtual worlds) are delivery (in the case of movables) and registration in the case of immovables.

3 Acquisition of Virtual Property

3.1 Introduction

In a virtual world there is no meaningful distinction between software and law. What the software does not allow, is impossible. This leads to

28 This is not always the case. An example of an exclusion being the case of expropriation when the ownership is acquired free from the characteristics, obligations and benefits of the right of a predecessor: Van der Merwe & De Waal 116.
29 Badenhorst, Pienaar & Mostert 71.
30 Van der Merwe & De Waal 116; Badenhorst, Pienaar & Mostert 72.
31 Van der Merwe & De Waal 116.
32 For a detailed discussion of original acquisition in South African Law see Badenhorst, Pienaar & Mostert Silberberg & Schoeman’s 137, 174. Of all of these examples, the most important in virtual worlds is occupation.
33 Van der Merwe & De Waal 148.
34 Van der Merwe & De Waal 156. For a detailed discussion of transfer (delivery) as a mode of derivative acquisition of property in South African Law see: Badenhorst, Pienaar & Mostert 175, 200.
35 Van der Merwe & De Waal 165. For a detailed discussion of registration of land as a mode of derivative acquisition of property in South African Law see Badenhorst, Pienaar & Mostert 201, 239.
36 This is if the virtual law is derived from the computer code. It is also possible that players create legal norms between themselves that are not designed or enforced by the code-based legal norms. See Grimmelmann 2004 NY Law
an area of law in virtual worlds where “there is no room for mediation because any ‘legal’ mediation embodied in the software immediately becomes part of the ‘natural’ world.”37 This means that a player’s property rights are guaranteed by the programming. As the “owner” of a virtual sword, an avatar is guaranteed that the rights that he or she has in the sword would be protected and enforced against any other player by means of the game-code.38 While the player “owns” the sword, no other player can interfere with his right, or even make use of the sword. However, as in real life, no property rights are totally absolute or totally exclusionary in a virtual world. A player’s property rights will be guaranteed to be protected only insofar as the software allows for it.39 For example, in the virtual world Ultima Online, one of the features is that players are enabled by the software and game-design to “steal” from one another.40 In other words in such virtual worlds the software explicitly makes allowances for the action of lawfully “stealing” the property of another player.

3.2 The concept of virtual world ownership

The concept of “ownership” inside a virtual world is a problematic one and it is easier (and probably more correct) to describe players’ property rights towards the things that they “own” in virtual worlds as being possessory.41 The reason for this is that the concept of ownership is normally inferred from the factual question of possession. Because a player is not enabled by the game’s code to possess an item “belonging” to another player, the mere fact of possession equates to ownership inside the virtual world. In many virtual worlds property rights attach to a holder of an object for as long as the item is carried around by the
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As soon as the avatar drops the object, it constitutes abandonment and the item immediately becomes *res derelictae*. The next person to pick up the item will then become the new owner. The example mentioned here is a very simplistic use of the ownership concept in a virtual world and many worlds are far more sophisticated in their approach to the ownership concept as well as in the implementation of it via code. This is due to the pressure on developers to implement more detailed code-based property rules and not only a simple “possession-is-all-rule.” An example of a more complex code-based property system may be found in the area of virtual homeownership. The default rule in virtual worlds is that all players have access to all areas at all times. The next more developed rule is to allow only the owner of a house into his virtual home, which is counter-intuitive if a home-owner wishes to invite guests without giving them a full run of the house. To solve this dilemma, developers have created a nuanced system of levels of exclusionary capacity that they build into the code-based property system. Grimmelmann refers to this as a “virtual fee simple” with a new estate carved out called the “right to visit.” This so-called “right of visit” is perpetual, non-transferable and subject to revocation by the owner of the house at any stage.

This right to visit has a measurable effect on the ability of both owner and visitor to interact with their own property as well as the property of others. In the example above about ownership being lost by the dropping of an item, the rules of the acquisition of the object in question was clear. However, if one was to integrate that example into the context of a virtual home in a virtual world, a number of problems arise. One such problem (and a main reason why players would wish to own a virtual home), would be to have a secure environment where they could store their collected virtual items without losing their property rights in it. Apart

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43 Or “unequips” the item.
44 Grimmelmann 2004 *NY Law Sch LR* 147 151. For example, Ultima Online’s Playguide describes the procedure and consequences of dropping items as follows: “You can remove items from your inventory and drop them almost anywhere on the screen near your character. If, for some reason, the item can’t be dropped in the location you’ve selected, either an error noise will sound or the item will return to your inventory. A dropped item will stay where it is until it deteriorates naturally or someone picks it up. Dropped items don’t tend to stay around for long.” Mythic “Ultima Online playguide: environment manipulation” (2010) *UO Herald* available at http://www.uoherald.com/node/115 (accessed 2010-11-03).
45 Grimmelmann 2004 *NY Law Sch LR* 147 151.
47 Making use of feudal estate terminology.
48 Grimmelmann 2004 *NY Law Sch LR* 147 152.
49 Even if items are not taken by other players, they are subject to “decay” as is explained in the Ultima Online Playguide. “In Ultima Online, items that are
from this, homeowners would also like to have guests over for functions and other social visits. However, what would the consequences be of inviting visitors to a player’s house? Would an item dropped by a guest become the property of the homeowner, or would any guest that picks up or uses an item in the house become the new owner of that item? It is clear that in this case the general rule of possession equating virtual ownership is not satisfactory. In order to solve this problem, the nuanced system of exclusion mentioned above incorporates a number of new options. A homeowner is able to choose between certain categories of access that he or she wishes to assign to a visitor. Depending on the category that a homeowner assigns to a visitor, that visitor will not only be able to access certain areas of the home, but the visitor’s interaction with the items in the home will also be defined. For example, one visitor might have access to enter the house, but not to pick anything up, while another visitor might be given certain permissions to be able to carry off any items in the home.50

3.3 Original Acquisition Inside Virtual Worlds

From the discussion above it is clear that the most important form of acquisition of virtual property is derived from having possession of a virtual thing. How then does a player acquire possession and/or ownership of an object of virtual property? As mentioned above, the methods of acquisition would usually depend on the allowances made for transfer and possession by the code and by extension the laws of the virtual world itself.51 Similarly to the real world, original acquisition is usually achieved by means of occupation of property (occupatio). In the virtual world occupation of property frequently happens by means of capture of wild animals or monsters.52

In most virtual worlds the best way to increase one’s virtual patrimony is by occupation, or as it is commonly referred to in virtual worlds, as “the taking of wild monsters”.53 The capture and killing of wild animals or monsters inside virtual worlds often represent the best way of...
acquiring treasure or "loot". Although it is legally significant to be the player who slays a monster, the possession of the monster’s corpse is only of legal significance for a short time because it is not the monster’s corpse that is important, but rather the perceived value of the objects that these monsters drop when they are killed.54 Grimmelman notes that

[i]n the large crop of quasi-medieval games, with their strongly fantastic overtones, the capture of wild animals is nothing less than the principal source of wealth. The single most profitable “industry” is hunting monsters and looting their corpses.55

In the case of capture and killing of the monsters, the property rules contained in the game-code are highly worked out, but do not provide for all the available circumstances that presents itself in the game. For example, a game like EverQuest automatically awards experience points56 to the player who kills a monster. If a group of players work together to slay a monster, the experience points are distributed by the game amongst the players, usually in proportion to their contribution to the killing. However, the loot that the monster drops when killed is not automatically assigned to any specific players and becomes res nullius as soon as it is dropped.57 The first player to pick up the treasure then becomes the owner of it. Although the game-code would seem to create certainty as to the ownership of the picked-up treasure, the player community has developed a set a normatively binding rules relating to who is allowed the pick up the treasure.58 Players will often deviate from the code-based rules to follow rules based on their own social understandings.59

Apart from the capture and killing of wild beasts as a method of obtaining virtual property, certain other interesting methods are available to the player. Mining and farming are given as examples of how

54 See the discussion about the automatic awarding of experience points below.
55 Grimmelman 2004 NY Law Sch LR 147 155.
56 These experience points are valuable because they contribute to the development of the player’s avatar, from a vulnerable inexperienced weakling in the beginning of the game, to a superior character with enhanced abilities at the higher levels of the game. One of the aims of most virtual worlds is that the player’s avatar should be able to proceed to the next level (called levelling up). This is achieved by the acquisition of property and experience points.
58 If one player picks up the treasure that appears from another player’s efforts, it is considered as “kill stealing”. Even though the game-code would not penalise this action, the other players will take action against a perpetrator. For more info see Grimmelman 2004 NY Law Sch LR 147 155-156.
59 Ibid 156.
things are taken raw out of “nature” and then transferred into useful and saleable things. Take this account of one player’s labours for example:

In addition to the four hours of clicking, Stolle had had to come up with the money for the deed. To get the money, he had to sell his old house. To get that house in the first place, he had to spend hours crafting virtual swords and plate mail to sell to a steady clientele of about three dozen fellow players. To attract and keep that clientele, he had to bring Nils Hansen’s blacksmithing skills up to Grandmaster. To reach that level, Stolle spent six months doing nothing but smithing: He clicked on hillsides to mine ore, headed to a forge to click the ore into ingots, clicked again to turn the ingots into weapons and armor, and then headed back to the hills to start all over again, each time raising Nils’ skill level some tiny fraction of a percentage point, inching him closer to the distant goal of 100 points and the illustrious title of Grandmaster Blacksmith.60

Certain games also provide mechanisms for combining already existing things into new things (accession),61 and others have mechanisms for creating new things from a code level.62 Apart from ownership of the virtual thing, in such a case the creator is sometimes given intellectual property rights in the newly created thing. This is such a prominent aspect of the virtual world Second Life, that there is even an intellectual property office in Second Life.63

3 4 Derivative Acquisition Inside Virtual Worlds

Apart from being able to pick up or take an item that is lying around as res derelictae, there is a thriving economy that operates inside most virtual worlds.64 Players can make use of auction houses,65 bazaars and other in-game trading facilities like shops, taverns and town commons to transfer property – and consequently ownership.66 The benefit of using the in-game provided mechanisms for transferring property is that the code usually provides a secure transaction facility. The property is kept

61 For example, in Ultima Online players are sometimes required to combine items to produce new items. See Mythic “Ultima Online playguide: environment manipulation” (2010) UO Herald available at http://www.uoherald.com/node/115 (accessed 2010-11-03).
62 This is a prominent feature of Second Life. See in general Ondrejka “Escaping the gilded cage: user created content and building the metaverse” 2004 NY Law Sch LR 84.
64 Deenihan 5; Castronova 2003 Int J Comp Gaming Res.
65 Deenihan 5.
by the game-code and only transferred to the buyer as and when funds are transferred. An example of this is found in the World of Warcraft game-guide:

Select a character, and then right-click on its portrait/name. You can also do this for player portraits. This will launch the trade screen with another player. Place your items in the top portion of the screen. Once you are satisfied with the other player’s trade, hit “Trade” button. To trade money, open up your backpack and hold down shift while clicking on the money amount. You can then select the amount of money and drag it over to the trade window. You can also drag an item or money from your bags and drop it on another player to initiate a trade window. Make sure the other player gives the correct type of coin in the trade. When you have a trade window open, you can right-click an item to move it to the trade window.67

Similar to the real world, immovable property such as houses and virtual land are also tradable in virtual worlds and ownership of virtual real estate frequently changes hands. Most virtual worlds that provide for individual ownership of virtual immovable property also provide some type of registration system that emulates a real world deeds registry. 68

Take for example this extract from the Dark Age of Camelot Manual:

Please note that only Personal Homes can be sold, not Guild homes. Should you decide to sell your home to a fellow player, there are a few steps to follow. The first thing you need to do is to get the title to your home. You can purchase the house title to your home in the housing market area from the deed NPC. Once you have the house title, it works just like any other item transaction. Hand the house title to the player you wish to sell it to, decide on the price, and then both of you hit accept. You can only sell a house to someone who doesn’t already own a home. Once you have the house title, it works just like any other item transaction. You must stand on the lot where the house is [, t]hen hand the house title to the player you wish to sell it to [, t]hen decide on the price [, t]hen both of you hit accept [, t] Please note: you can only sell a house to someone who doesn’t already own a home.69

The example above mentions that the house title is transferred from player to player. This might look like a normal “physical” transfer of a document, but it must be noted that the game-code arbitrates the transaction and immediately records the details of the transaction as well...


as that of the new owner in a central database.\footnote{See Mythic “Ultima Online Playguide: houses: selling your house to another player” (2010) \textit{UO Herald} available at http://www.uoherald.com/node/213 (accessed 2010-11-05).} Therefore, it would seem as if derivative acquisition of property occurs in much the same way in the virtual world as in the real one.

4 Conclusion

In this paper I discussed a number of ways in which ownership of virtual property can be acquired inside of a virtual world and illustrated these with a number of examples from virtual worlds. In order to understand the procedure of acquisition of virtual property I briefly discussed how virtual world property based systems operate when they deal with the concept of ownership. The purpose of the paper was to take a brief exploratory look at virtual world acquisition of ownership. This was done against the background of South African property law. It is clear that there are similarities between acquisition of ownership in the real world and that of acquisition inside of a virtual world. Even from the limited examples discussed above it has transpired that one can obtain ownership of property inside of a virtual world via either original or derivative means. The most prominent method of obtaining original acquisition of virtual property is by occupation of a thing that is \textit{res nullius}, while the most prominent method of obtaining derivate acquisition is through transfer of ownership by means of delivery.